

NOTES: Unless Otherwise Specified

1. 4.0% Ceramic Nd:YAG Zig-Zag Slab (14 bounces).
2. Polish surfaces -C- & -D- (end surfaces) to 10/5 scratch/dig, flat to $\lambda/10$ and AR coating < 2% @ 1064 nm for both "P" & "S" Polarization at 59° AOI.
3. Surface -C- & -D- to be parallel within 30 arc second.
4. The clear aperture on surface -C- & -D- is to be central 3.8 x 3.8 mm square.
5. Polish surface -A- & -B- to 20/10 scratch/dig, flat to $\lambda/10$ over any 10 mm length.
6. Surface -A- to be HR coated > 99% @ 885 nm on over coat to maintain TIR for "P" & "S" Polarized 1064 nm internal bounce. It shall produce TIR when an adhesive is applied to surface -A-.

7. Surface -B- to be parallel to surface -A- to within 10 arc sec. AR coat surface -B- @ 885 nm maintaining TIR for "P" & "S" Polarized 1064 nm internal bounce.
9. Wavefront distortion shall be less than 0.5 wave over the zig-zag optical path length at 632 nm for the total clear aperture.
11. Indicated length L (unchamfered tip to tip length) shall be determined by the following equation with measured slab thickness, T and measured tip angle, α .

$$L = N \cdot T \cdot \tan[\sin^{-1}(\cos(\alpha)/n + \alpha)] + T/\tan(\alpha) \pm 0.1 \text{ mm}$$
 where N = # of bounces
10. Laser marking on grounded surface points to indicated the AR coated surface -B-.
11. Both side surfaces are ground finish.
12. All right angle corners $90^\circ \pm 5'$.
13. Chamfers are not polished.
14. AR and HR coatings shall be multilayer dielectric such that the zig-zag path of 1064nm light traveling through the center will not suffer more than 4% to be measured at NASA-GSFC.

ALL DIMENSIONS ARE IN MILLIMETERS

